

MARINE REVIEW.

VOL. V.

CLEVELAND, OHIO, THURSDAY, JUNE 30, 1892.

No. 27.

The Late Emmons Blaine.

Emmons Blaine, who died suddenly in Chicago June 18, and who had only recently been elected to the presidency of the Chicago Ship Building Company, was the eldest living son of James G. Blaine, ex-secretary of state, though in the lifetime of his brother, Walker, people frequently thought that Emmons was the elder because of his prematurely gray hair, which began to be remarked when he was hardly more than 23 years old. He was born in August, 1857. He studied at Harvard college, being graduated in 1878, and afterward at the law school of Harvard university, taking a two years' course there in 1879 and 1880. But even in boyhood he had shown a strong interest in railroads and after a thorough training on different lines, was at the time of his death vice-president of the Baltimore & Ohio Southwestern Railroad. He was in charge of the western interests of this company in Chicago. The portrait of Mr. Blaine is from the Illustrated Buffalo Express, copyrighted 1892 by George E. Mathews & Co.

Lake Freight Matters.

In conditions surrounding lake freights during the past two months, no feature of the market is presented more forcibly than the influence of iron ore companies controlling big lines of vessels. Not only have these companies reduced by more than 75 per cent. in some cases the amount of tonnage required in their business, and thereby put an end to extreme freight rates such as have been paid in the past, but they have also placed a leverage on the market that has shown itself on several occasions of late. Being large owners of vessels themselves they have not been disposed to force rates down in times of temporary weakness, and on the other hand, have been in a position to resist any tendency toward extreme advances. This is one reason why the fair movement of grain that has held out since the opening of navigation has had no marked effect on ore freights, although shipments up to the present time will show a very fair aggregate in comparison with last season. If the market for iron ore was such as to afford a fair profit on sales, the condition of lake freights might be different, but all things considered the vessel owner has reason to feel thankful that fairly profitable rates have held out to this time. A report that some non-Bessemer ore had been sold a few days ago at \$2.75 a ton caused some

talk during the past week, but if the details were known it would probably be found that there was something radically wrong in it. The ore was said to be guaranteed 56 per cent. iron, but there is little doubt that, notwithstanding the depressed condition of the market, such ore would sell at better than \$3 if it was of straight quality otherwise.

Wheat and corn in store at Chicago foots up about 7,000,000 more bushels than at this time a year ago and Duluth shippers are again taking some tonnage for wheat to Buffalo, so that indications are, if any, more favorable to the vessel owner than they have been for two weeks past. There are no signs, however,

of any important change in the market either way. At this writing ore freights are strong at 70 cents from Escanaba, 95 cents from Marquette and \$1.15 from Ashland and Two Harbors to Ohio ports. Coal is also moving actively at the improved rates that have characterized the past month. Lake Michigan shippers have had only half a supply of coal tonnage during the past ten days. The collapse of the soft coal shippers' association will have little effect even upon the sales market, as lake coal has been largely sold in the northwest.

Against Floating Elevators.

The finance committee at a special meeting in Cleveland Monday adopted the following: "Resolved that the Lake Carriers' Association, representing the vessels engaged in trading to and from the port of Buffalo, respectfully urges both the department of war and the municipal authorities of the city of Buffalo



EMMONS BLAINE.

to take prompt steps to cause the removal of the Cyclone elevator to some point in the harbor where navigation and the dock interests of Buffalo will not be interfered with or obstructed." The secretary was instructed to send copies of this resolution to the secretary of war, the mayor of Buffalo and the United States engineer in charge of Buffalo harbor work.

Although Vice-President H. M. Hanna and Secretary Keep of the Lake Carriers' Association who went to Washington to assert the excellent qualifications of Col. William Ludlow and Commander O. F. Heyerman and ask that these officers be given a hearing on matters pertaining to their dismissal from the lighthouse service, were met with statements that seemed to make the case one of discipline in the conduct of treasury department affairs, it can be said that the shipping interests of the lakes have not as yet given up attention to this matter.

President Harrison on the Canal Toll Question.

President Harrison's message to Congress on the question of reciprocity contains the following of special reference to the canal toll question:

"It will be noticed that Mr. Blaine reports as one of the results of the conference, 'an informal engagement to repeal and abandon the drawback of 18 cents a ton given to wheat (grain) that is carried through to Montreal and shipped therefrom to Europe. By the American railways running from Ogdensburg and Oswego and other American ports the shippers paid the full 20 cents a ton, while in effect those by the way of Montreal pay only 2 cents. It was understood that the Canadian commissioners, who were all three members of the cabinet, would see to the withdrawal of this discrimination.' From the report of the recent conference by Mr. Foster it will be seen that the Canadian commissioners declare that this statement does not conform to their understanding, and that the only assurance they had intended to give was that the complaint of the government of the United States should be taken into consideration by the Canadian ministry on their return to Ottawa. Mr. Foster, who was present at the first conference, confirms the statement of Mr. Blaine.

"While this misunderstanding is unfortunate, the more serious phase of the situation is that instead of rescinding the discriminating canal tolls, of which this government complains, the Canadian ministry, after the return of the commissioners from their visit to Washington April 4, reissued without any communication with this government, the order continuing the discrimination by which a rebate of 18 cents a ton is allowed upon grain going to Montreal, but not to American ports, and refusing this rebate even to grain going to Montreal, if transhipped at an American port. The report of Mr. Partridge, the solicitor of the department of state, which accompanies the letter of the secretary of state, states these discriminations very clearly. That these orders as to canal tolls and rebates are in direct violation of Article 27 of the treaty of 1871, seems to be clear. It is wholly evasive to say that there is no discrimination between Canadian and American vessels, that the rebate is allowed to both without favor upon grain carried through to Montreal or transhipped at a Canadian port to Montreal. The treaty runs: 'To secure to the citizens of the United States the use of Welland, St. Lawrence and other canals in the dominion on terms of equality with the inhabitants of the dominion.'

"It was intended to give to consumers in the United States, to our people engaged in railroad transportation, and to those exporting from our ports, equal terms in passing their merchandise through these canals. This absolute equality of treatment was the consideration for concessions on the part of this government made in the same article of the treaty and which have been faithfully kept. It is a matter of regret that the Canadian government has not responded promptly to our request for the removal of these discriminating tolls. The papers submitted show how serious the loss inflicted is upon our lake vessels and upon some of our lake ports.

"In view of the fact that the Canadian commissioners still contest with us the claim that these tolls are discriminating and insist that they constitute no violation of the letter or spirit of article 27, of the treaty, it would seem appropriate that congress if the view held by the executive is approved, should with deliberation and yet with promptness take such steps as may be necessary to secure the just rights of our citizens. In view of the delays which have already taken place in transmitting this correspondence to congress, I have not felt justified in awaiting the further communication from the government of Canada which was suggested in the recent conference. Should any proposition relating to this matter be received it will be immediately submitted for the consideration of the senate; and if forwarded within the time suggested will undoubtedly anticipate any final action by congress."

The President enclosed a report from Secretary Blaine and also one from Mr. John W. Foster on the subject.

Among the numerous congresses which will be held at Chicago during the world's fair is one on water commerce. It is believed that no difficulty will be experienced in making this congress international in character, as water transportation is a subject of supreme interest to nearly every nation. John C. Dore, of Chicago, is chairman of the committee which is promoting the proposed congress.

Contract for a Big Steel Steamer.

Mr. F. W. Wheeler of West Bay City was in Cleveland Tuesday and closed a contract with the Mitchell Transportation Company for a steel steamer that will rank among the class of modern freight carriers that includes such boats as the big Minnesota steamers and the steamer Gilbert, recently launched by F. W. Wheeler & Co. The new boat, to be 345 feet over all, will in dimensions be a duplicate of the Gilbert. Her engines will be of the triple expansion type but not so large as those of the Gilbert. They will be duplicates of the engines of the wooden steamer Uganda, but the boiler power will be 25 per cent. greater than that of the Uganda. The policy of increased boiler power without increase in the present size of triple expansion engines is meeting with favor among builders and owners who have given the subject careful attention.

Average Adjusters' Rules.

Following are the rules of practice adopted by the Board of Lake Average Adjusters, organized recently in Detroit:

Valuation of vessels for contributory purposes—That in all cases the valuation of the ship for contributory purposes be arrived at either by a survey under oath made by the representatives of the hull and cargo interests, or by mutual agreement of those interests; or by a certificate of valuation made by disinterested experts selected by the adjuster under oath.

Value of spars, sails and rigging to be contributed for in general average, where same have been carried away by a peril of the sea, and afterwards cut away by master in general interest—Running rigging and sails not split 33½ per cent. of cost; standing rigging 50 per cent. of cost; blocks 70 per cent. of cost; iron work 80 per cent. of cost; spars not sprung 100 per cent. of cost. The amounts resulting all to be carried in the usual column of new for old.

Partial transhipment of freight—That in case of partial transhipment which transhipment shall have been made to avoid greater expense, which would properly be a general average charge, the freight on such transhipment shall be allowed in general average as a substituted charge.

Grouping of accounts with but one amount extended—That no single item in an adjustment shall include more than one account

Collecting commission—That no collecting commission shall be allowed or other similar allowance be made, except in cases of steamers with general cargoes and a large number of consignees.

Contributing value of freight where part jettisoned—The contributing value of freight where jettison has taken place shall be full freight on that portion contributed for, and one-half freight on that portion earned.

Another Rapid Fueling Dock.

Another coal dock with chutes for rapid fueling of vessels will be established on the Canadian side of the Detroit river near the town of Sandwich, above Manhattan Beach. The owners will be the Cuddy-Mullen Coal Company of Cleveland and John Mullen of Amherstburg, who has been engaged in the coal business on the Detroit river for a number of years past. The property, already purchased at a cost of about \$8,000, has a frontage of 600 feet on the river and plans have been made for a dock, trestles and other parts of the plant to cost in all about \$30,000. The projectors propose to handle Youghiogheny coal, and will have a slip dredged in the rear of the dock, so that the coal can be supplied to the chutes from cargo vessels without interfering with the work of putting the fuel aboard steamers on the river side of the dock. A revolving derrick with a long arm will remove the coal from cargo vessels to the dock.

Send 20 cents in stamps for Tabulated Statement showing Lake Superior ore production for 1891, and the past 36 years.

Whaleback Passenger Steamers.

Some idea of the appearance of the McDougall passenger steamer for the World's Columbian Exposition, upon which work has been commenced at West Superior, may be gained from the drawings presented herewith. These drawings accompany Capt. McDougall's applications in this country and in Great Britain for patents on one style of passenger boat of the whaleback type. The world's fair boat will differ from the plans shown here in as much as she will be distinctly an excursion boat, will not be double decked above the whaleback hull and will be otherwise a modification of the ocean-going

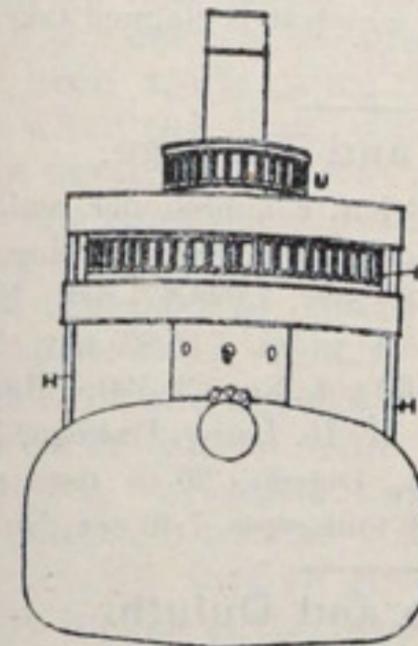


FIG. 4.

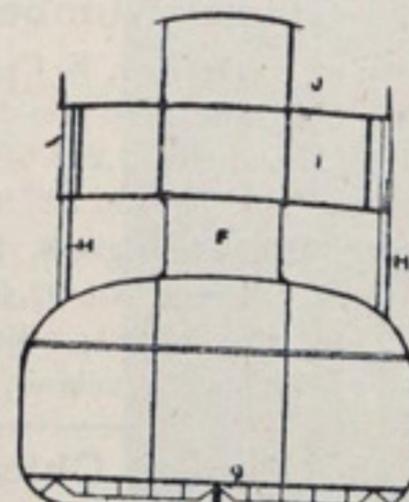
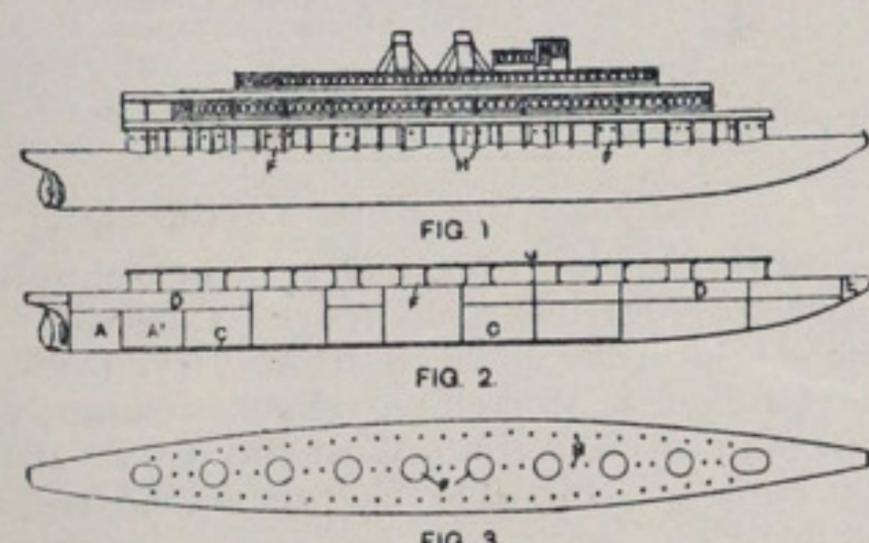


FIG. 5.

passenger whaleback, to which the barge company has at least given attention to the extent of preparing numerous plans and securing patents in different parts of the world. Ever since Capt. McDougall secured the assistance of capital in the building of freight-boats he has given a great deal of his time to designs of whalebacks for different branches of water transportation business. Plans for Atlantic liners 700 feet long with triple screws have been prepared after the style shown here, and the variety of designs turned out by draftsmen at the West Superior shipyard includes even lumber carriers with masts and sail.

The descriptive matter accompanying the application for patents on the passenger boats in Great Britain is as follows:

This improved form of vessel consists generally of a long metallic hull, having approximately straight sides, with a spoon-shaped bow, a cut-away stern, and a long cabin supported lengthwise above the hull on three rows of cylindrical turrets with supporting braces at each side. This vessel is intended chiefly for passenger service, and the principal objects sought to be attained by the inventor are the provision of large and airy cabins, and the attainment of high rates of speed with less motion at sea than other vessels. The general features of this modified whaleback steamer will be understood from the



accompanying illustrations, Figs. 1, 2, 3, 4, and 5, which represent a side elevation, a longitudinal vertical section, a plan of the hull, a front elevation, and a transverse section respectively. The hull has longitudinal and transverse bulkheads, and a water bottom having a metallic top C, which forms a false bottom for the vessel. The bulkheads extend from the false bottom to the top of the hull, thus preventing the admission of water in case of the vessel being thrown out of its equilibrium. D represents a deck situate some distance below the top of the

hull, which may be of any length. A 'A' are the engine and boiler rooms. The engines may be of any suitable number, but preferably three, for operating triple screws. A collision chamber E is provided at the bow, and a deck G is secured to metallic turrets F and additionally supported by stout braces H shown. These braces, which are virtually pipes, also serve for ventilation purposes. The hull is accessible from the cabin I by staircases through the turrets. A modification of this type of vessel is illustrated and described, in which the cabin extends from a point near the stern to a point midway between the bow and stern. The inventor claims: A hull for a vessel, having an arched top and an arched bottom, with a deck D, forming the chord of the arched top and with a false bottom C, forming the chord of the arched bottom; in a vessel the combination of a hull and deck G, mounted above the hull upon turrets and extending from a point near the stern to a point near the bow, so as to form a truss for the hull; a hull for a vessel having longitudinal bulkheads, extending from the extreme top of the hull to the false bottom C, and with cross bulkheads; in a vessel the combination with the hull of the deck G, supported upon turrets and extending from a point near the extreme bow to a point near the extreme stern, and cabins I and J secured to the said deck G.

Sault and Suez Canal Traffic.

Returns regarding the traffic passing through the Suez canal during 1891 have just been published by the British foreign office. Although during the season of navigation (seven months) in 1889 and 1890 the traffic of the St. Mary's Falls canal, connecting Lake Superior with the other great American lakes, has exceeded that of the Suez canal for the full years, there is a difference of 298,092 tons in favor of the Suez for 1891. Traffic of both canals for twenty-three years past is shown in the following table:

SUEZ CANAL.			ST. MARY'S FALLS CANAL.		
Year.	No. of vessels.	Net tonnage.	Year.	No. of vessels.	Net tonnage.
1869	10	6,576	1869	1,338	523,885
1870	486	436,609	1870	1,828	690,826
1871	765	761,467	1871	1,637	722,101
1872	1,082	1,160,743	1872	2,004	914,735
1873	1,173	1,367,767	1873	2,517	1,204,446
1874	1,264	1,631,650	1874	1,734	1,070,857
1875	1,494	2,009,984	1875	2,033	1,259,534
1876	1,457	2,096,771	1876	2,417	1,542,676
1877	1,663	2,355,447	1877	2,451	1,439,216
1878	1,593	2,269,678	1878	2,587	1,667,136
1879	1,477	2,263,332	1879	3,121	1,677,071
1880	2,026	3,057,421	1880	3,503	1,734,890
1881	2,727	4,136,779	1881	4,004	*1,567,741
1882	3,198	5,074,808	1882	4,774	*2,029,521
1883	3,307	5,775,861	1883	4,315	*2,267,105
1884	3,284	5,871,500	1884	5,689	*2,874,557
1885	3,624	6,335,752	1885	5,380	*3,256,628
1886	3,100	5,767,655	1886	7,424	*4,527,759
1887	3,137	5,903,024	1887	9,355	4,897,598
1888	3,440	6,640,834	1888	7,803	5,130,659
1889	3,425	6,783,187	1889	9,579	7,221,935
1890	3,389	6,890,014	1890	10,557	8,454,435
1891	4,207	8,698,777	1891	10,191	8,400,685

Against Forward Turtle-Back Decks.

In the construction of costly steamers there are features introduced one year that are often abandoned in the year following or within a comparatively short period when the cost of these styles or fashions—they can not well be covered by any other term—are taken into consideration. Take, for instance, the turtle-back deck forward, so popular among some owners a year or two ago. Some of these same owners have built boats during the past winter without turtle-back decks and would not have them on any account. Masters have presented strong objection to the turtle-backs in their claims that they can not see well ahead and that sound is entirely different during thick weather and at times when every advantage is demanded for safety.

SEND 50 CENTS IN STAMPS TO THE MARINE REVIEW FOR TEN PHOTO TYPES AND GRAVURES OF LAKE STEAMERS NEATLY BOUND.

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW.
No. 13 Western Union Building, CHICAGO, Ill., June 30.

It can be stated on good authority that W. A. Livingstone of Detroit will be offered the management of the World's Fair Steamship Company, which has the exclusive franchise of landing passengers at the world's fair grounds. Mr. Livingstone was here the other day and appeared before the officers of the company, who were favorably impressed with him. No better man could be secured for the difficult position. Mr. Livingstone unites both theory and practice. With both of them he has sound common sense; and it would be hard to find a man who could shoulder the great responsibility with greater hope of success than he. What is still better, Mr. Livingstone does not, like so many people connected in the world's fair in various positions, travel on his shape. In this respect he will be quite a novelty around the world's fair headquarters. It is to be hoped that he will accept the place.

Chicago marine men have never had such a time with currents as for five days ending on Monday. Navigation was practically suspended during most of that time and an enormous fleet accumulated at the mouth of the harbor and along the docks in the south branch unable to get either in or out as the case might be. All of this, however, is too well and unpleasantly known by hundreds of vessel owners around the lakes to dwell on the misery now. Some of these vessel owners were so very thoughtless as to blame the city government for not having the cofferdam, which had been placed in the river at Van Buren Street some months ago, while the tunnel for the West Side Street Railroad Company was being constructed, removed several weeks ago when the tunnel had been completed. These thoughtless vessel owners were so foolish as to suppose that the city government of Chicago has anything to do with the river or with anything else for the public good which is not directly in the line of politics. Of course many of these vessel men pay big taxes in Chicago and they naturally suppose that the city government was being run to look after their business interests, and if there was an obstruction in the river, which was of no good to anybody, and which might as well be moved as not, the mayor and commissioner of public works would see that it was moved. Of course, nothing of the kind was done, and the cofferdam might have remained in the river until the end of time before the city authorities would ever have made a move to have had it jerked out. The present administration is no worse in this respect than any of its predecessors. Vessel men must understand that if they want anything done they must get up and howl for it, like other people. The city authorities are not going around trying to find places where they can do good. On the contrary, they are dodging everything that can be dodged, and will not act on any proposition until public clamor compels them to do so. It is to be hoped that Chicago vesselmen have learned a lesson from the cofferdam to the effect that they must not wait for somebody else to fight their battles for them, but seek help themselves, forcing the city authorities to take the required action.

James B. Kellogg, the well known insurance adjuster, who has been with C. W. Elphicke & Co. for several years, and H. N. Robinson, late chief clerk for Crosby, Macdonald & Co., have formed a partnership in the marine insurance business, and will have their office at No. 12 Sherman Street. While the firm will deal with marine insurance in general, the adjustment of marine losses will be their principal business for some time. Mr. Kellogg is so well known around the lakes that it hardly seems necessary to say a good word for him, however much it might be deserved. Mr. Robinson has grown up in the office of Crosby, Macdonald & Co. and has gained an excellent reputation as a young insurance man. The firm begins its business July 1.

If the current in the Chicago river had continued a month longer, tugmen would have become experts in the handling of large craft and it is likely they would have got along without much trouble. Nevertheless the five-mile current through a channel not much over the width of a boat and as crooked as a ram's horn is not a pleasant thing to tackle.

The underwriters who are interested in the Progress are having considerable difference of opinion on what to do with the wreck. Some of them want to get out as cheaply as possible, sell the boat for what she will bring, pay the loss and close the accounts.

It is a little odd that nearly all the big insurance losses this season have occurred on Monday. Capt. Elphicke says Monday is indeed a blue day this year.

Lake Matters in Canada.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., June 30.—Inquiries have been made here by Buffalo grain dealers with regard to the proposed elevator. They asked for a statement showing how much grain would require storage here every season, the cost of construction and if a good site were available on reasonable terms. It is proposed to operate the elevator here in conjunction with those at Buffalo, or in other words for the owners to control the storage of grain no matter which route it may be forwarded by. The probabilities are that Canadians would not submit to the monopoly and that during the coming winter the question will be seriously discussed.

The members of the dominion government are unwilling to discuss President Harrison's threat of non-intercourse with Canada, and appear to regard

it as an election bluff. The government organ at the capitol in referring to the matter says that the pretense that Canada is breaking faith with the United States in the matter of canals is untrue. It is a matter of common knowledge, however, that when a Canadian vessel attempted to use the Erie canal she was stopped at Whitehall and compelled to discharge her cargo on the plea that there was no agreement that Canadian vessels could navigate the Hudson river.

Senator Davis' bill giving the president power to charge toll on freight bound to Canadian ports and passing through the St. Mary's Falls canal is being discussed at Ottawa. One member of parliament remarked that before congress passed the bill and the president deemed it wise to exercise the authority, the Canadian canal at the Sault will be finished, when it will make no difference whether the tolls are charged or not.

The new steel tug recently launched by the Collinsby Rafting Company has been named the Petrel, after the bird which it is claimed takes possession of the souls of all sailors who die at sea.

Official Numbers and Tonnage.

The bureau of navigation, E. C. O'Brien, commissioner, assigned official numbers to the following lake vessels during the week ending June 25: Steam—Cadillac, Marquette, 1,263.54 tons gross, 1,068.17 net, No. 126,876; John B. Ketcham, 2nd, Toledo, 908.88 tons gross, 778.82 net, No. 77,073; Promise, Detroit, 473.13 tons gross, 295.67 net, No. 150,590; Mary, Toledo, 218.93 tons gross, 134.93 net, No. 92,442; H. H. Leroy, Oswego, N. Y., 78.76 tons gross, 49.74 net, No. 96,081; Wanda, Detroit, 20.15 tons gross, 13.69 net, No. 81,377; Kalista, Cleveland, 9.89 tons gross, 7.46 net, No. 161,026.

Grain at Chicago and Duluth.

Stocks of grain at Chicago and Duluth on Monday, June 27, were as follows:

	Chicago.	Duluth.	
	Wheat, bu.	Corn, bu.	All wheat, bu.
In store.....	5,756,134	3,726,691	4,260,428
Decrease last week.....	245,497	.....	77,442
Increase last week.....	.....	1,340,023	.....
Excess over same time last year..	4,580,249	2,563,351	2,028,508

In addition to the above there is 1,235,224 bushels of oats, 166,030 bushels of rye and 17,668 bushels of barley in store in Chicago.

Additions to the Lake Fleet.

Inland Lloyds July supplement contains the names, tonnage and valuation of over a million dollars worth of floating property put forth from lake ship yards during the past month. Three of the steamers are the straight-deck package freighters for the Anchor Line built at three different yards, and two, the Gilbert and Maritana, are the largest steamers now in commission on the lakes. Following is the list:

NAME OF VESSEL.	CLASS	NET TONNAGE.	VALUE.	OWNER AND PORT OF HAIL.
Cadillac.....	A1	1,068	\$120,000	Cleveland-Cliffs Iron Co., Cleveland, O.
Codus.....	A1	1,800	175,000	Erie & Western Trans. Co., Erie, Pa.
Mahoning.....	A1	1,800	175,000	Erie & Western Trans. Co., Erie, Pa.
Schuylkill....	A1	1,800	175,000	Erie & Western Trans. Co., Erie, Pa.
W. H. Gilbert.....	A1	2,200	225,000	Empire Trans. Co., Saginaw, Mich.
Maritana.....	A1	2,000	200,000	Minnesota S. S. Co., Ashtabula, O.
a-Deer.....	A1	25	11,000	T. W. Kirby, Grand Haven, Mich.
b-J. S. Parsons.....	A1	109	5,000	F. Phelps, Chaumont.
c-Abram.....	A1	354	18,000	Comstock, Alpena, Mich.
		11,156	\$1,104,500	

a-tug ; b-schooner ; c-barge ; all others steel steamers.

Work of the Ship Yards.

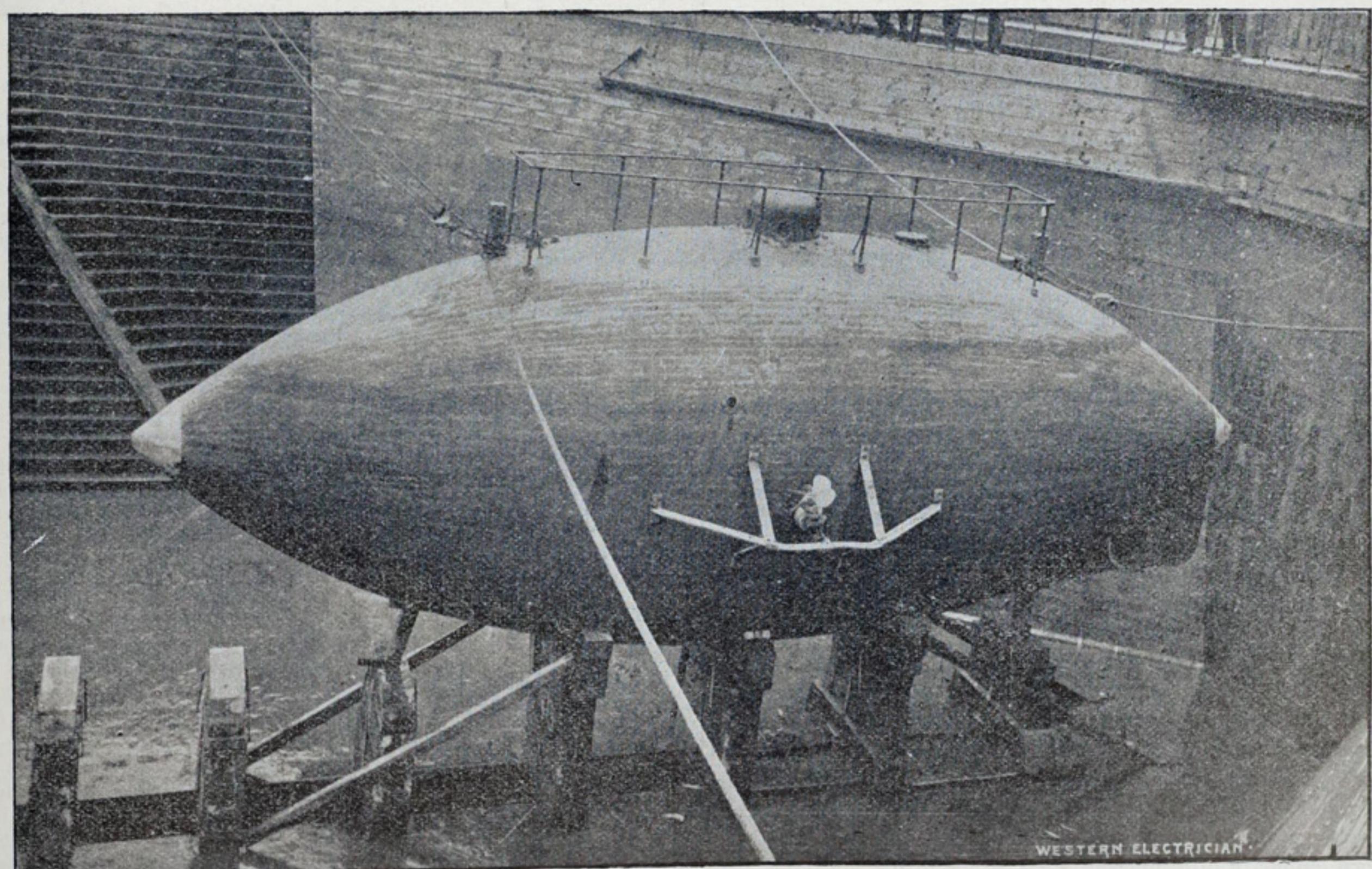
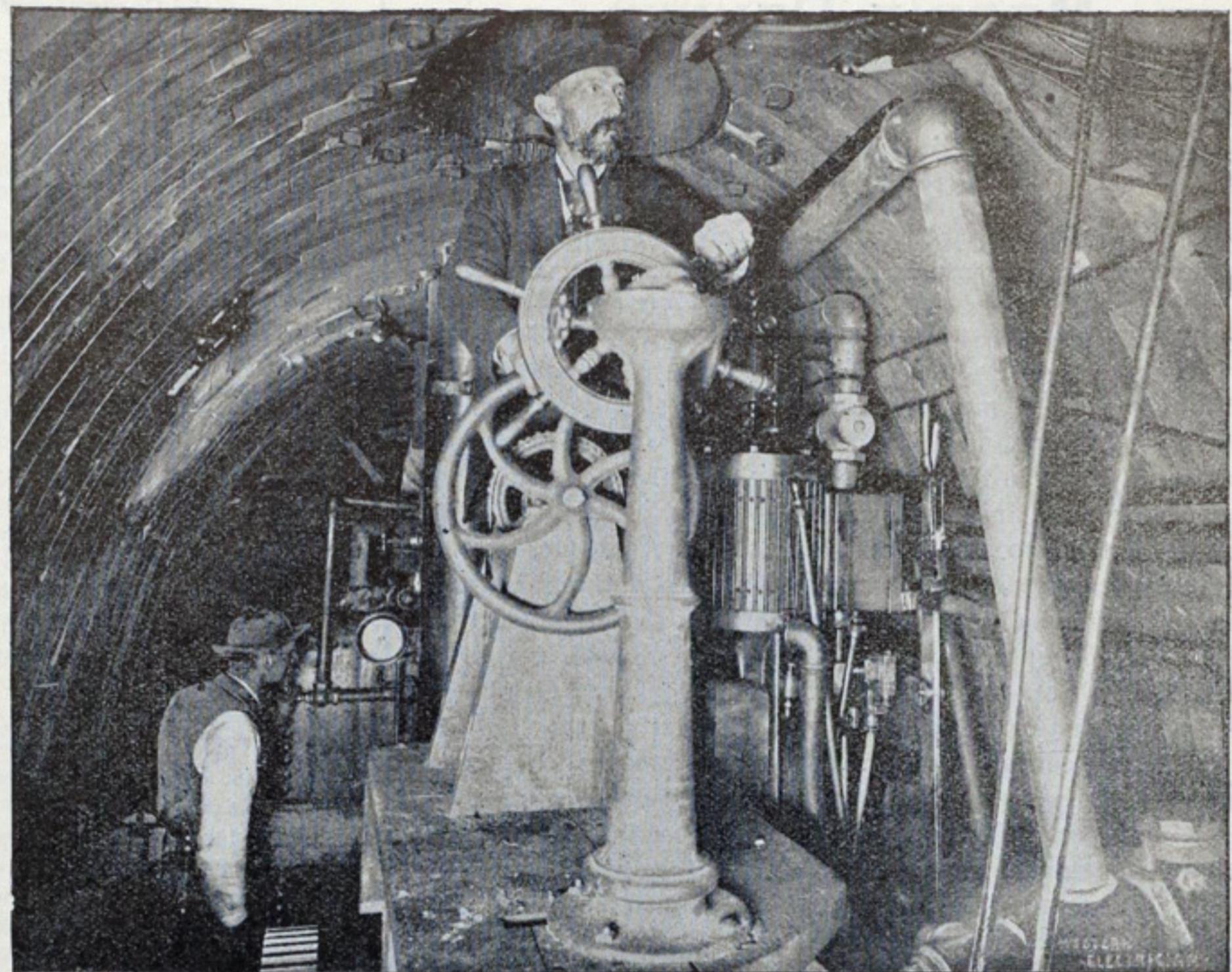
The last of the Anchor line steamers, the Schuylkill, building at the yards of the Globe Iron Works Company, Cleveland will be launched Saturday. The Detroit Dry Dock Company launched the Graham & Morton passenger steamer Chicora on Saturday last, and at Davidson's West Bay City yard on Wednesday the first of the "Big Three" steamers, named City of Venice, was floated.

SOME figures just prepared from the Inland Lloyds Vessel Register for insurance agents show that since June 30, 1891, there has been built on the lakes sixty-four vessels of 83,323 net registered tons and of value aggregating \$7,911,000. When it is considered that this register includes only the larger class of business boats, the record of lake ship yards for the past year can well be contrasted with that of previous seasons of heavy building.

Send 50 cents in stamps to the MARINE REVIEW for ten phototypes and gravures of lake steamers neatly bound.

The Sub-Marine Boat.

The Baker sub-marine boat will be towed from Detroit within a short time down the lakes, through the Erie canal to New York and thence to Newport, where the government torpedo station is located, and where the best facilities for tests and experiments are at hand. It is understood that the government will conduct or at least supervise the test work, so that successful sub-marine navigation, commenced on the lakes, will be perfected in the east. No further trials have been made since those mentioned when the boat was illustrated in detail in the REVIEW, May 19. On recommendation of Commodore Folger, U. S. N., W. Scott Sims, inventor of the Sims-Edison torpedo has visited Mr. Baker at Detroit and examined the boat. He is delighted with this auxiliary to his invention, which has been adopted by the United States and several foreign governments. By means of the boat the torpedo can be handled under circumstances that were hitherto impossible. The combination will make one of the most valuable means of modern warfare. Concerning the demands of the gov-



INTERIOR AND EXTERIOR VIEWS OF THE BAKER SUB-MARINE BOAT.

(From the Western Electrician, Chicago.)

ernment for a sub marine boat, Commodore Folger recently said: "I consider the principle of the Baker boat feasible. It is already made clear that an efficient boat can be submerged and kept under control with but a foot of the conning tower above the surface. A Sims torpedo could be sent out from such a vessel to a distance of a mile and, directed at night by means of range

lanterns, would be more effective than by day. The submerged vessel, equipped with such a torpedo, could remain at a point where she would be completely invisible to an enemy's ship. The boat will be further armed with the submarine gun and projectile, tests of which have already been made with satisfactory results recently at Newport."

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

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CANADIAN government officials as well as vessel owners and others of the dominion interested in the shipping business of the lakes understand fully the importance of the canal toll question involved in the recent reciprocity conference, and there is no need of explaining to them the mistake of the Canadian press in referring to President Harrison's recent message to congress as a campaign document. There is nothing bearing a sign of politics in that part of the president's message treating of the canal toll question, and the Democratic house, as well as the senate, will undoubtedly give the whole matter careful attention immediately. The action of the executive branch of the government is entirely in line with the conservative demands of the Lake Carriers' Association and other leading commercial bodies in all ports of the lakes, who have been instigative in bringing the subject to the attention of the government. As the president states in his message the final outcome of negotiations on the subject is not yet at hand, but he has deemed it proper to place before congress propositions looking to retaliation in case the discriminations are maintained.

The resolution dealing with the question, which has just been presented in the senate and referred to the finance committee of that body, provides in effect that after August 1 next, whenever and so often as the president shall be satisfied that the passage through any canal or lock connected with the navigation of the St. Lawrence river, the great lakes or the waterways connecting the same, of any vessel of the United States or of cargoes or passengers in transit to any United States port, is prohibited or is made difficult or burdensome by the imposition of tolls or otherwise, which, in view of the free passage through the St. Mary's Falls canal, now permitted to vessels of all nations, he shall deem reciprocally unjust and unreasonable, he shall have the power, and it shall be his duty to suspend by proclamation for such time and to such extent (including absolute prohibition) as he shall deem just, the right of free passage through the St. Mary's Falls canal, so far as it relates to vessels owned by the subjects of the government so discriminating against the citizens, ports or vessels of the United States, or to any cargoes, portions of cargoes, or passengers in transit to the ports of the government making such discrimination, whether carried in vessels of the United States or of other nations. In such cases and during such suspensions tolls shall be levied, collected and paid as follows: Upon freight, not to exceed \$2 a ton; upon passengers not to exceed \$5 each, as shall be from time to time determined by the president; provided that no tolls shall be charged to or collected upon freight or passengers carried to and landed at Ogdensburg or any port west of Ogdensburg and south of a line drawn from the northern boundary of the state of New York through the St. Lawrence river, the great lakes and their connecting channels to the northern boundary of Minnesota.

IN another part of this issue is published a letter from E. C. O'Brien, commissioner of navigation, on the subject of government investigation and reports of marine disasters and accidents of all kinds. An opinion is asked for. The REVIEW has repeatedly called attention to the necessity of such investigations and heartily endorses the suggestions of the commissioner.

A Statement From the Light-House Board.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C., June 30.—The light-house board decided to have its say also and has given out the following statement in regard to the relief of Col. William Ludlow, engineer corps, U. S. A., and Commander O. F. Hyer- man, U. S. N., engineer and inspector, respectively, of the Eleventh light-house district:

"In January, 1889, a preliminary project costing \$60,000 was submitted for the purpose of lighting the St. Mary's river below the Sault. The project, as stated in the report that accompanied it, was simply preliminary. In March, 1890, a revised project was submitted by the engineer of the Eleventh light-house district calling for thirty-eight lights. This was approved by the light-house board at a meeting in April of the same year, and the following winter congress was asked to make an appropriation of \$30,000 for the establishment of these lights. The sundry civil bill, approved March 3, 1891, contained an item of \$30,000 for establishing "some thirty-seven lights." In May of 1892 a letter was received from the engineer of the Eleventh light-house district giving the location of forty-five lights, which was far in excess of what the board had approved or of what congress had authorized. The light-house board replied that the number and location of lights must conform to the board's instructions of April, 1890. The district officers then answered that the project of 1890 was only approximate and that the additional lights were necessary for the navigation of the St. Mary's river as it exists at the present time.

"On June 2 the light-house board telegraphed: 'Board absolutely refuses to put more than thirty-eight lights in St. Mary's river. Confer with inspector, agree upon, locate and establish thirty-eight lights, each of which may be lighted so soon as set up. Where channels have changed location of lights may be changed after agreement with inspector, to be placed so that the thirty-eight lights may meet as nearly as possible the requirements of navigation, adhering as closely as practicable to the location approved by the board March 29, 1890, of which you were notified April 5, 1890. After the thirty-eight lights are placed forward joint report giving locations thereof and full data of notice to mariners. Any structures not included in the thirty-eight lights agreed upon by the engineer and inspector in accordance with these instructions must be removed before leaving the river.' On the 6th of June the board telegraphed insisting that its telegram of June 2 be strictly carried out; that the approved project of 1890 was the one to be followed and that the lights shown thereon were to be placed by both district officers acting together; that the discretion granted did not extend to dropping a light at one point and substituting one at some other point, but only such slight variations of position as might be necessary to meet needs of commerce, but not to change from one site to another wholly different. The engineer replied that the additional lights were absolutely necessary, and that no additional funds would be needed to establish them, but the board did not consider itself warranted in increasing the number of lights over what had been approved. The engineer then telegraphed that 'safety of navigation calls for adequate provision or none,' to which the reply was made: 'Your telegram of June 10 is uncalled for. Obey your instructions.' On June 13 the district officers sent a long dispatch still urging the location of forty-five lights, apparently without any regard to the instructions of the board to establish thirty-eight, or of its refusal to place more than thirty-eight. Consequently a special meeting of the board was called on June 14 to consider the matter, at which meeting all of the correspondence was read and discussed, and it was finally resolved unanimously that the secretary of the treasury be requested to ask for the relief of the district officers, and that others be assigned in their places, and the secretary of the treasury complied with this request.

"On June 15, the day after the board had resolved that the district officers be relieved, a telegram was received from them as follows: 'Telegram of 15th received. Section 5358 of revised statute forbids literal compliance with the board's instructions. The Little Mud lake range as prescribed by the board would amount to the exhibition of false lights.' Paragraph 5358 referred to reads as follows: 'Every person who holds out or shows any false light, with intent to bring any vessel sailing upon the sea into danger or distress or shipwreck, shall be punished by a fine of not more than \$5,000 and imprisoned at hard labor not more than ten years.' Previous correspondence between the light-house board and Maj. Ludlow shows clearly that a certain margin of action in the location of range lights on the St. Marys river was left to the district officers of the Eleventh light-house district, and that a literal compliance was not intended by the board. The intimation contained in the telegram was to the effect that the light-house board, by the location of certain range lights on the Little Mud lake range in the St. Marys river, was guilty of an intent to lead vessels astray and into shipwreck. This language was considered as entirely uncalled for and offensive by the light-house board.

"On the strength of this last telegram, the secretary of the treasury made a second request that the officers should be relieved without delay, even if it were necessary to assign others temporarily to their duties until permanent details could be made, and the request was immediately granted by the secretary of war and the secretary of the navy.

Meeting Loss of Trade in Low Grade Ore.

In building a steel steamer specially adapted to the transportation of pig iron, as well as in the project for new furnaces to make pig iron in the vicinity of Marquette, Mich., the Cleveland-Cliffs Iron Company will to some extent counteract the loss sustained through being compelled this season to suspend operations at its hard ore mine, on account of inability to market its entire ore product at present prices. The aim of the management of this company is evidently to reduce materially the cost of delivering at Lake Erie ports pig iron made in the vicinity of the mines. It is intended to load the steamboat, which is now nearing completion at Detroit in four hours and unload her in eight hours. This will be done by dropping the pig into the hold through chutes as ore is loaded, and taking it out by means of derricks with which the boats will be equipped. The advantage of such methods over the present work of handling one pig at a time in loading and unloading will be readily understood. Although the Pioneer, the new boat being fitted for this service, will not make two trips a week between Marquette and Cleveland, as was claimed in a newspaper item lately, she will be a very fast boat. The builders are making no claims regarding her but it is about certain that she will make 18 miles an hour. Engineer Austin Farrell, who has visited Escanaba, Marquette and other upper Michigan peninsula towns preparatory to establishing the new furnaces says it is intended to smelt on the ground the lean ores of the company for which a market can not now be secured. The furnace plant will be built with reference to using either coke or charcoal. If coke is used the coal will be coked at the furnace. The company already has an annual product of 25,000 tons or more of pig iron to be taken down the lakes, so that the boat will begin service with a business awaiting her.

British Shipping in 1891.

The returns regarding British shipping and navigation for the year 1891 show a slight decline in the number of vessels, but an increase in the tonnage as compared with either of the two preceding years. There were in 1891 17,243 vessels of 8,343,541 tons, and employing 240,480 persons registered in the United Kingdom, as compared with 17,425 vessels of 7,916,336 tons, and employing 236,108 men in 1890. If the Isle of Man, channel islands and British possessions be included the total amounted to 36,085 vessels, of 9,961,574 tons in 1891, as against 36,214 vessels, of 9,688,088 tons in 1890, and 36,469 vessels, of 9,472,000 tons in 1889. Of the vessels of the United Kingdom in 1891 11,114 of 3,026,501 tons, employing 81,189 men, were sailing vessels, and 6,129 of 5,317,040 tons, employing 159,291 hands were steam vessels, as compared with 11,570 sailing vessels of 2,893,572 tons, employing 94,218 persons, and 5,855 steamers of 5,024,764 tons, employing 151,890 hands in 1890.

Full Reports of all Accidents.

The following letter from Commissioner of Navigation O'Brien directs attention to a very important subject:

EDITOR MARINE REVIEW:—Due regard for the protection of life and property seems to require that an investigation should be made by the government as to the causes of marine disasters, collisions, accidents, etc., in the cases of all vessels of the United States, for the information and benefit of mariners, and especially with a view to prevent a repetition of similar mishaps. No official body besides the federal courts, is particularly charged with such inquiries, except to a certain extent in regard to steam vessels, and to cases in which reports are made for the use of the life-saving service. At present it does not appear that mariners generally, outside of the private persons especially concerned, have any certain means of learning all the facts which may have led to collisions, or strandings, or other disasters to vessels. If a proper official body constituting a board, at the expense of the government, could have power to investigate the various accidents; to send for witnesses and papers; to administer oaths; and to make a thorough investigation, the facts in regard to all cases might be brought out and notice given to mariners generally, so as to be of material use to them, and so that a knowledge of the causes of a disaster would not, as is now the case, be confined to the eye-witnesses, underwriters, masters, and owners, directly interested.

Your views relative to the matter are requested.

Treasury Department, Bureau of Navigation,
Washington, D. C. June 25, 1892.

E. C. O'Brien,
Commissioner.

In General.

The old whaling bark Progress, sailed from Boston June 8 in tow of the tug Right Arm, her destination being Chicago, where she will be exhibited at the world's fair. She is fitted and rigged as a practical whaler, and in her cabin is a collection of curiosities and products of the whaling industry.

At its annual meeting in Buffalo recently the American Boiler Manufacturers' Association elected the following officers: President, Phillip Rohan of St. Louis; first vice-president, Richard Garstang of St. Louis; second vice-president, Charles Kroschell; third vice-president, Michael Geary; treasurer, Richard Hammond of Buffalo; secretary, E. D. Meier of St. Louis. Resolutions were passed pointing out defects in the Frye bill, which demanded so much attention recently from steamboat and ship building interests.

An error was made last week in saying that the steamer Pioneer now being built by the Detroit Dry Dock Company for the Cleveland-Cliffs Mining Company is the first boat on the lakes to be fitted with Howden's system of forced draft. This system was placed in the twin-screw steamship Virginia of the Goodrich line last winter and is giving satisfactory results, President A. W. Goodrich says, both in maintaining steady steam and reducing coal consumption.

Two big ocean going steamers launched a few days ago, the El Norte at Newport News, Va., and the Peru at San Francisco, are it is true not much larger than the modern type of lake steamer, but they will make a valuable addition to important work in seaboard ship yards of late. The Peru is of steel, 350 feet keel, and will be used in the China trade, while the El Norte is 380 feet keel and belongs to the Southern Pacific Company, operating the Cromwell Line between New York and New Orleans. The launch of the El Norte was attended with great ceremony, quite a number of distinguished Washington people being present.

At the yards of Wm. R. Osborne & Son, boat builders, Peekskill, N. Y., a few days ago, an exhibition of an engine made entirely of aluminum bronze was given by the Bliven Palace Steamship Company. A. Perry Bliven, of New York, the inventor of the Bliven rapid steam generator and engine, conducted the tests. He has built an engine weighing only 600 pounds. The engine, though so light, will, he says, develop 105 horse power. His steam generator, he says, is the most rapid in the world. In the test this afternoon he generated steam in exactly four minutes from cold water. The engine was put in motion, and it ran smoothly and without accident.

The Shipping World, London, reviews some recent disasters and says that next to bad navigation, bad design is a prolific cause of loss, adding the following: "This is the result of entrusting the design of vessels to men who, no matter how clever as draughtsmen they may be, are not always competent as designers. The old French frigates formed the models which we copied, and the French are still to the fore for really scientific and accurate design, but this largely results from the fact that the members of the Genie Maritime have to go to sea, and our designers do not. The British admiralty has, however, at length found it necessary to send constructors and designers to sea, so that they can obtain practical experience of the requirements and behavior of ships."

On the modern steamer, according to Prof. J. H. Biles, of Glasgow, one man, with all the latest appliances at command, can produce as much work as was possible for 150 men on the old-time vessels propelled by manual power. Further improvement is still possible by the use of lighter machinery, boilers of the tubular type, and oil as fuel instead of coal. Even with such improvements, however, it would take a vessel 1000 feet long and 100 feet wide, with engines of 100,000 to 120,000 indicated horse power to cross the Atlantic from Queenstown to New York in four days. But as the propelling power of steamers has been multiplied by six in the last fifteen years, engines of 30,000 horse power being now known, it is not unreasonable to assume that in the next fifteen years the maximum horse power will be quadrupled.—American Shipbuilder.

The schooner J. D. Sawyer, which was released from her stranded position at Avon point, Lake Erie, several weeks ago, is now in dry dock at Port Huron. Her bottom is found to be in a very bad condition. She will require nearly an entire new keel. It is estimated that her repair bill will amount to \$9,000, and a month will be required to do the work.

Iron Mining.

VALUE OF LEADING STOCKS.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 75 00
Champion Iron Company.....	25 00	.....	60 00
Chandler Iron Company.....	25 00	43 00	46 00
Jackson Iron Company.....	25 00	.....	100 00
Lake Superior Iron Company.....	25 00	43 00	45 50
Minnesota Iron Company.....	100 00	.....	75 00
Pittsburgh & Lake Angeline Iron Co.....	25 00	.....	145 00
Republic Iron Company.....	25 00	.....	18 50
Ashland	25 00	.....	.....
Section Thirty-three.....	25 00	.....	7 50
Brotherton.....	25 00	2 00	2 50
Iron Belt.....	25 00	2 10	.....
Aurora.....	25 00	8 25	.....

Peter Kimberly and Henry W. Oliver are the "plungers" of the iron trade. They have taken the lead in contracts for actual work of development on the Mesaba, and their operations will receive a great deal of attention. The details of leases as made by them seem almost increditable, however, in view of present conditions in the ore trade. Oliver's lease of the Cincinnati is said to contain the following terms: Minimum output guaranteed, 150,000 tons a year; royalty, 55 cents; advance royalty, \$25,000; length of lease, nineteen years. The lease includes the entire property, eight forties. The lessees also agree to explore the four fourties that have not been explored, and if they find iron, they agree to mine a minimum of 10,000 tons extra on each forty.

Shipments of iron ore from Two Harbors up to Wednesday, June 22, aggregated 265,223 gross tons, of which 154,760 tons was from the Chandler and 110,463 tons from the Minnesota mine. On the same date shipments from Ashland aggregated 571,079 tons, divided as follows: Ashland 55,419 tons, Aurora 92,048, Colby No. 2 16,753, Tilden 66,345, Iron Belt 30,110, Montreal, north vein 8,406, Palms 14,756, Brotherton 28,299, Comet 2,375, Carey 11,495, East Norrie 63,217, Newport 19,967, Norrie 117,382, Pabst 18,556, Sunday Lake 21,025, Windsor 4,919.

Around the Lakes.

Mr. F. A. Hawley succeeds the late D. B. Linsted in the position of general western agent of the Central Vermont Line, with headquarters at Chicago.

In four hours and 53 minutes 1,712 gross tons of ore was unloaded from the steamer George T. Hope at South Chicago, Tuesday. This surpasses previous records in the unloading line.

Capt. D. P. Nickerson, who died in Cleveland Monday at the age of eighty-three years, was among the oldest of lake vessel masters and was well known as marine inspector for the old Mercantile Insurance Company of Cleveland.

On 15½ feet of water the new wooden steamer Iroquois, built at Marine City by Curtis & Brainard of Toledo has just brought down from Escanaba 2,316 gross tons of ore. She will undoubtedly carry 2,400 gross tons if loaded to the full depth of water in the rivers. The owners of the consort John C. Fitzpatrick are also very well pleased with the carrying capacity of their boat. She has just taken 1,906 gross tons to South Chicago on Lake Superior draft. The pair of boats, the Hope and Fitzpatrick, carried on this draft 3,618 gross tons.

Here is a sample of dispatch given by the management of the Reading coal affairs in Chicago: The steamer Italia on her last trip there with hard coal from Buffalo consigned to that company was in port a full week lacking a few hours. She was at first assigned to an up-town dock, which it was impossible to reach on account of her size—she carried about 2,500 tons—and was then turned over to the mercy of a shovelers' union at a second dock, where only four men were allowed to work at a hatch, although double that number might be used to advantage. There should be no complaint on the part of shippers when masters or owners refuse to charter their boats to certain companies on account of this sort of treatment. Coal is carried cheap enough as it is without delays of this kind to costly vessels in handling it.

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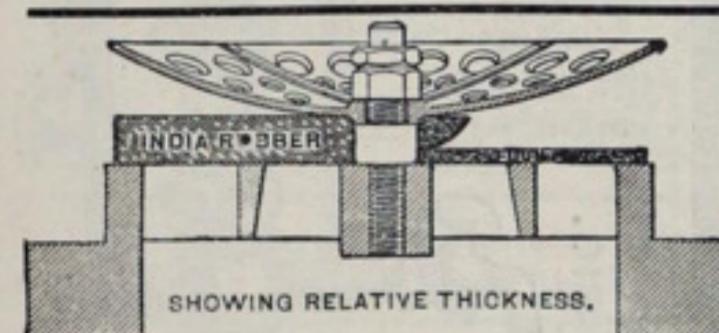
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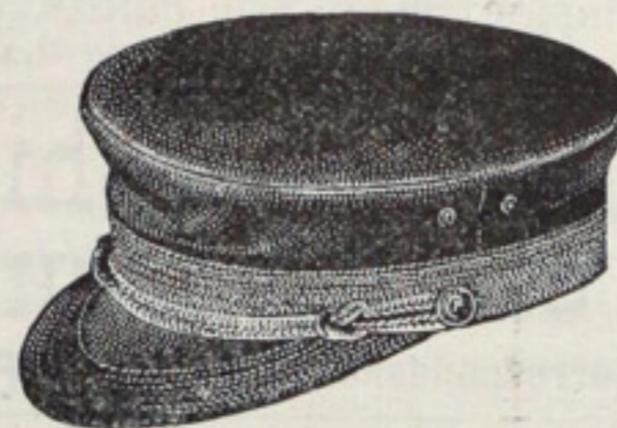
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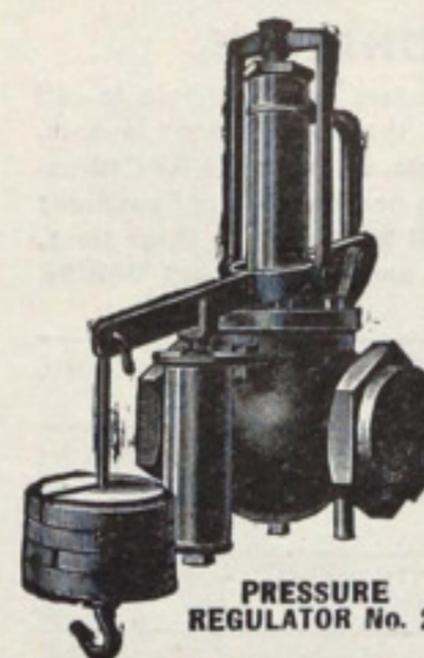
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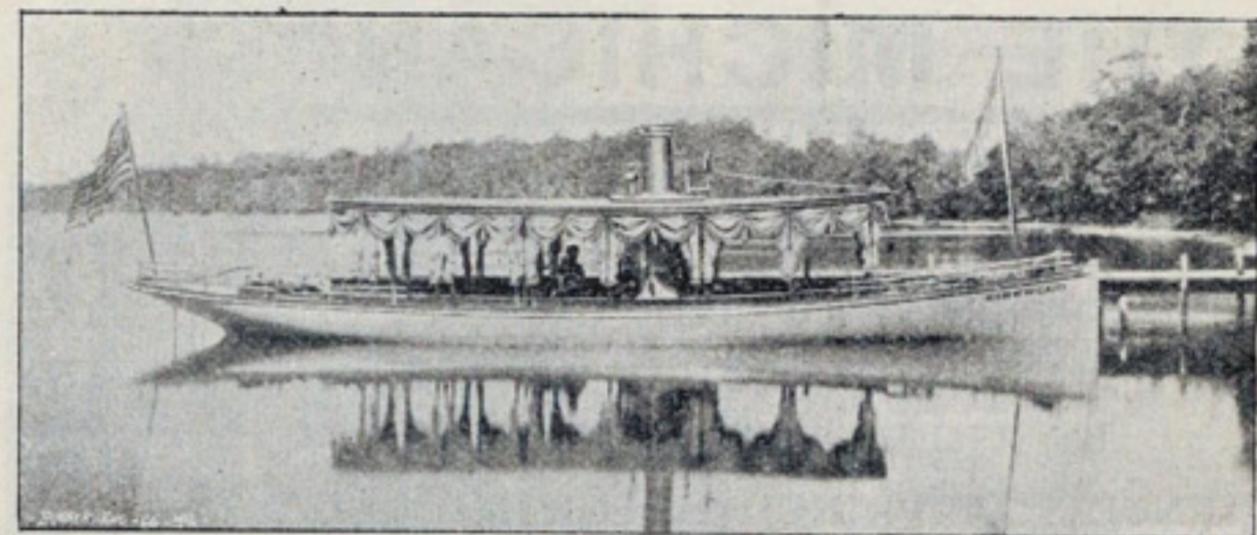
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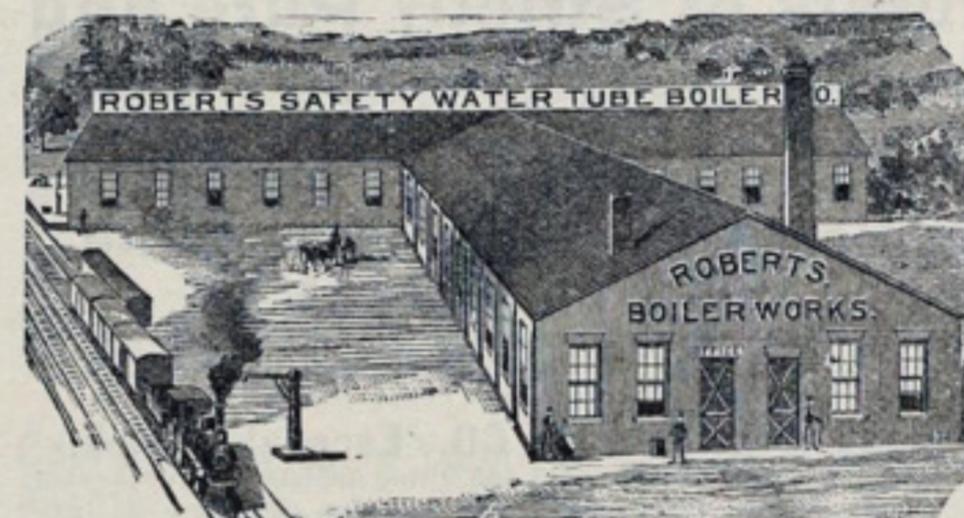
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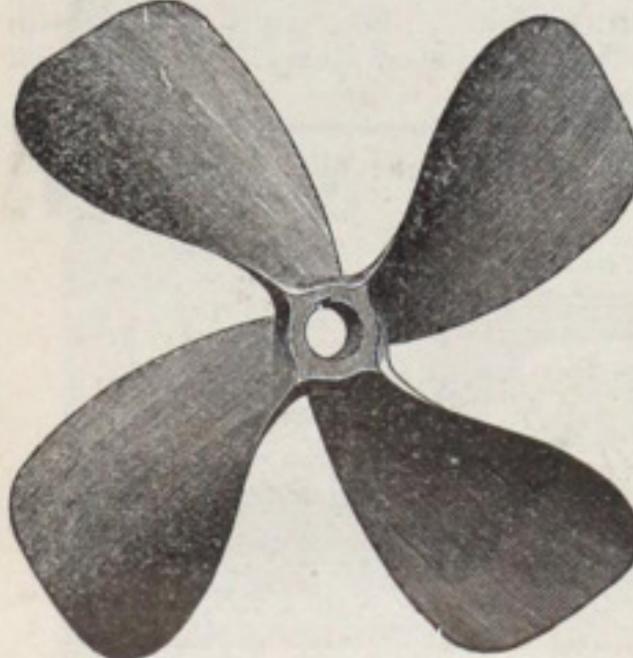
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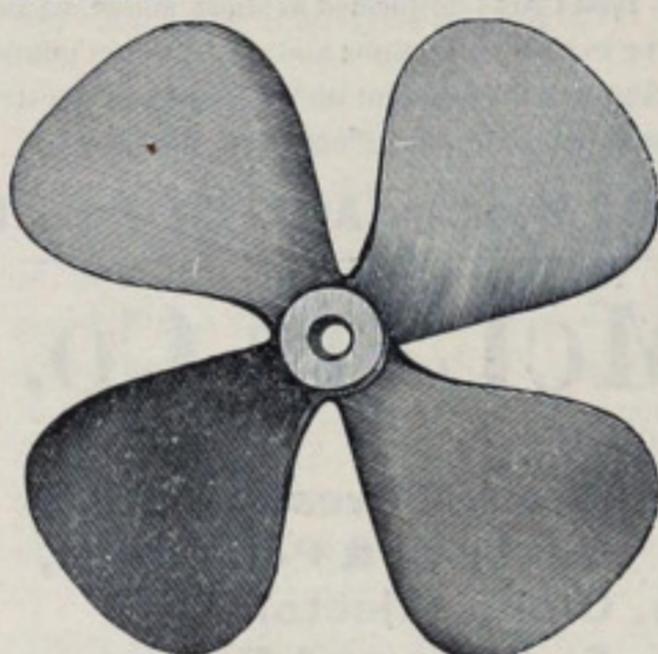
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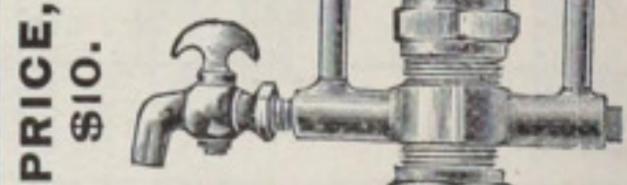
UNITED STATES ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., June 2, 1892. Sealed proposals in triplicate, for furnishing all plant materials and labor, and excavating in St. Mary's Falls Canal, Michigan, will be received at this office until 2 o'clock, p.m., July 2, 1892, and then publicly opened. Preference will be given to plant and materials of domestic production or manufacture, conditions of quality and price (import duties included) being equal. Attention is invited to acts of Congress, approved Feb. 26, 1885, and Feb. 23, 1887, vol. 23, page 332, and vol. 24, page 414, statutes at large. The government reserves the right to reject any or all proposals, or to waive any formalities in the bids received; also, to award the contract upon other considerations than the price. For further information apply at this office, or at the United States Engineer Office, Sault Ste. Marie, Mich. O. M. POE, Colonel, Corps of Engineers, Bvt. Brig. Gen., U. S. A.

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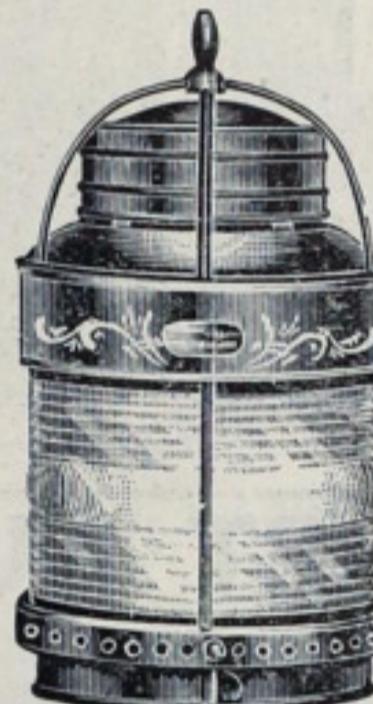
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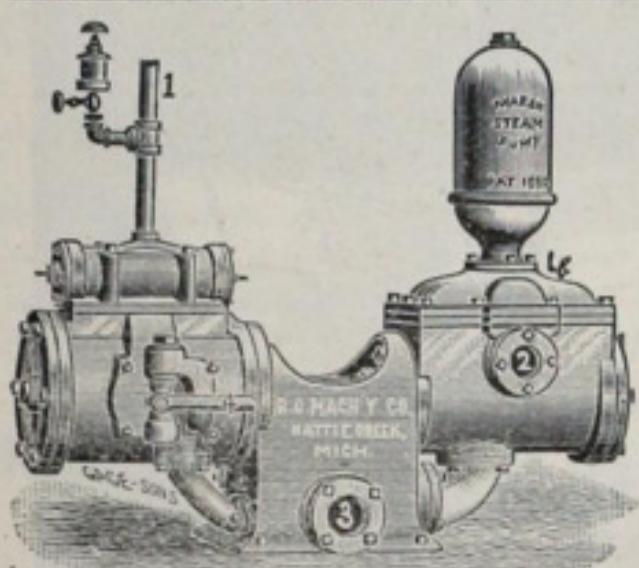
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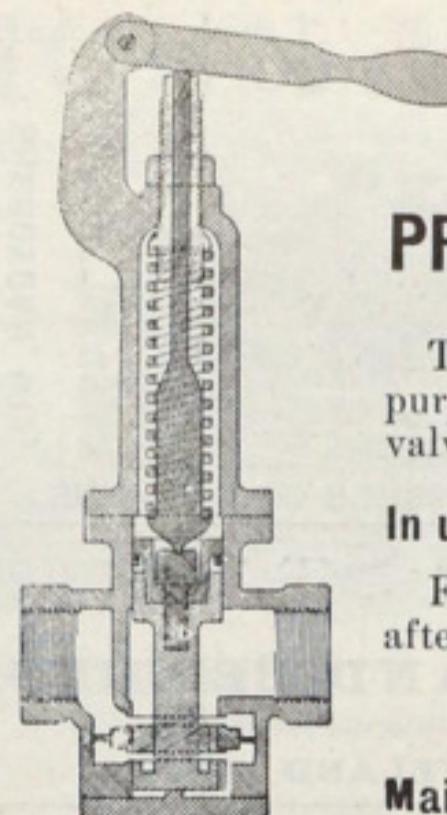
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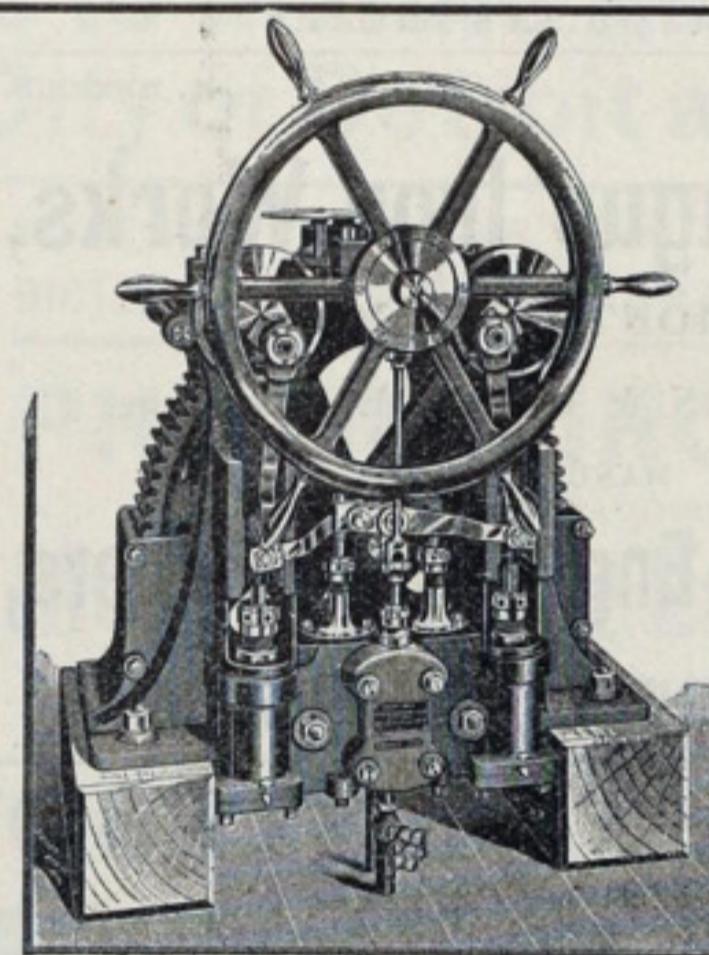
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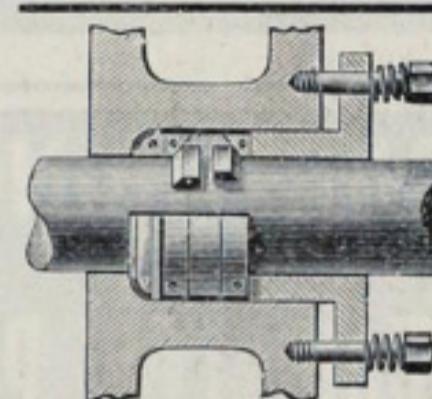
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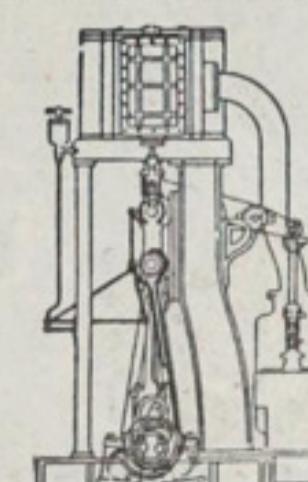
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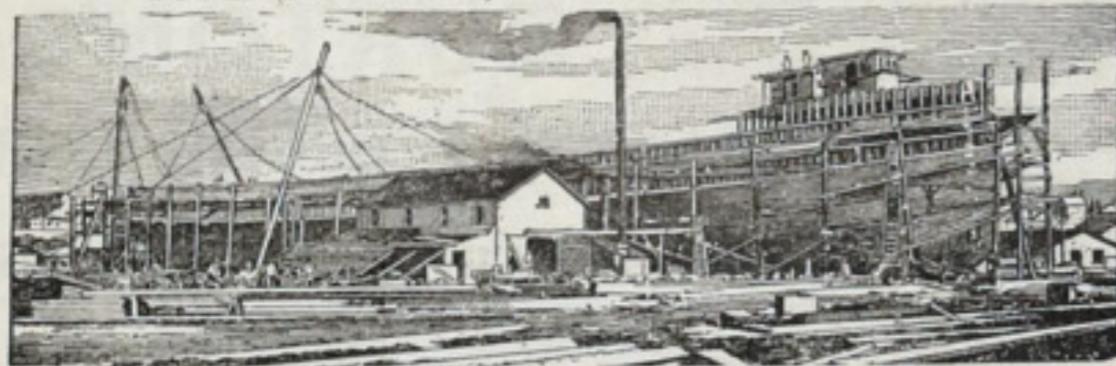
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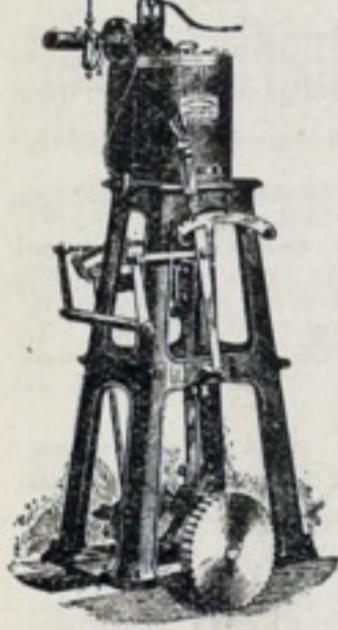
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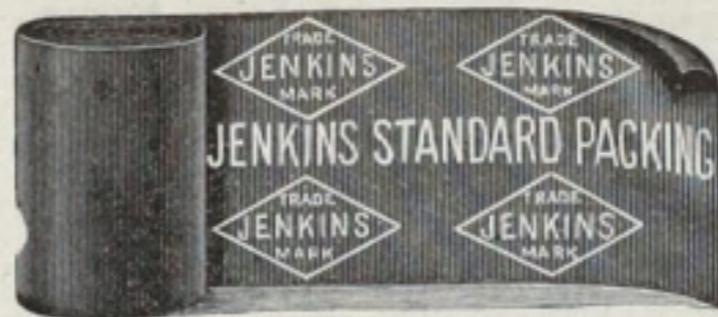
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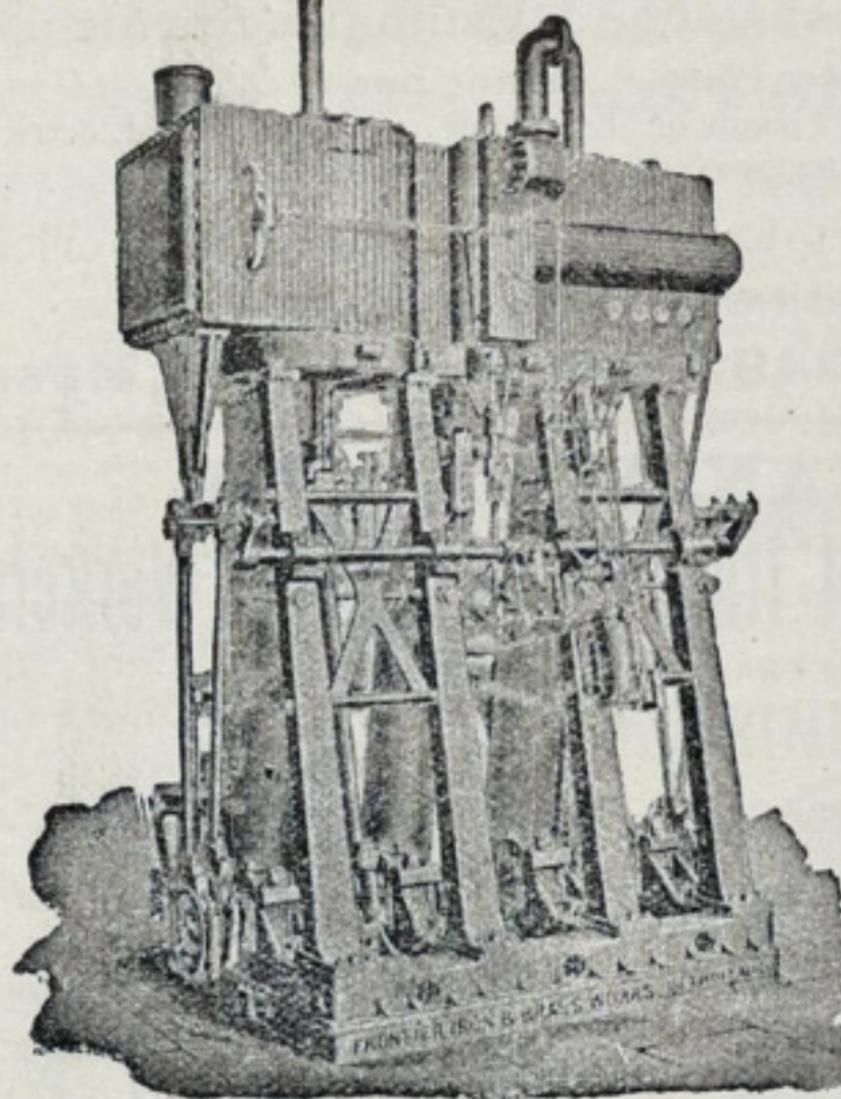
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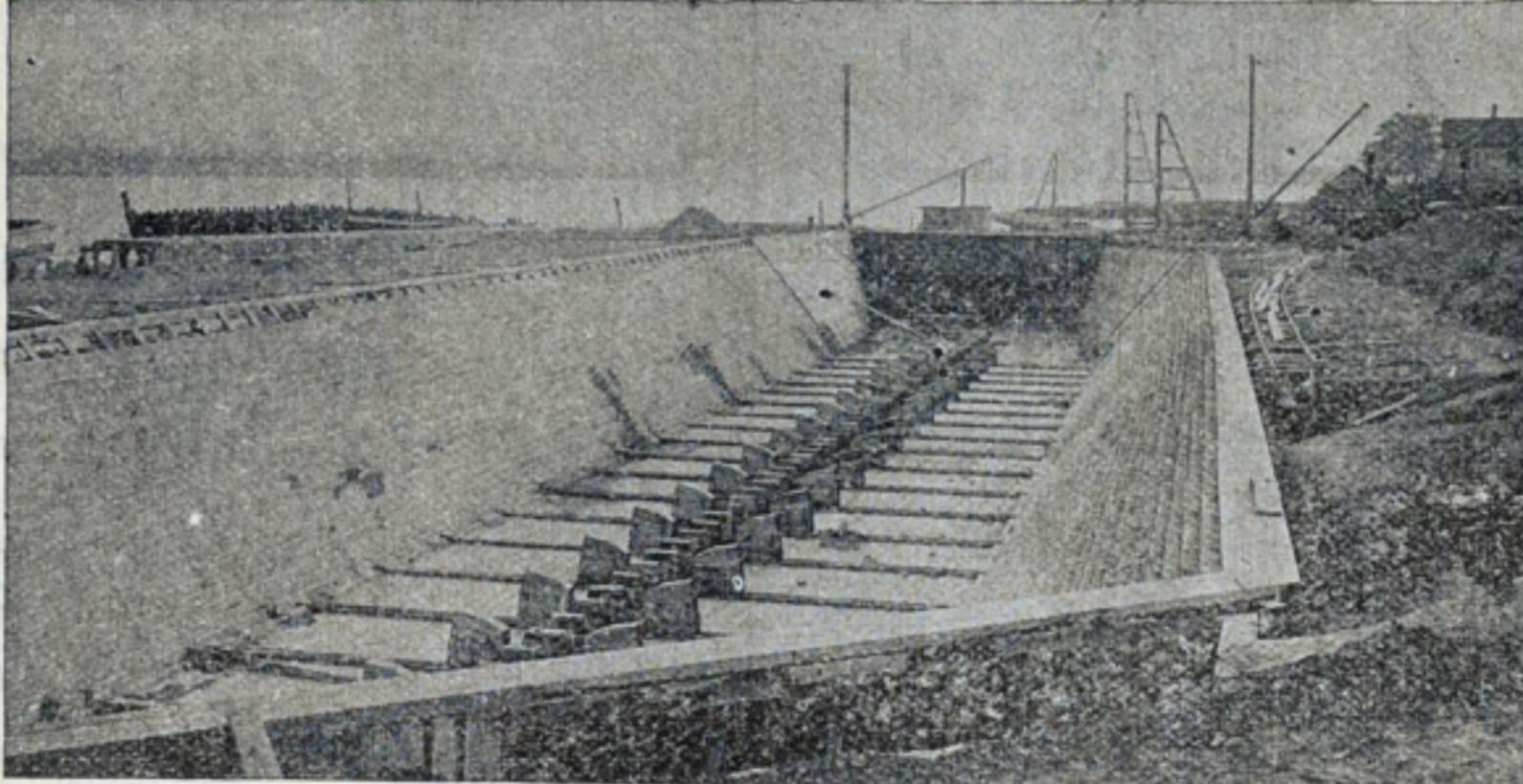
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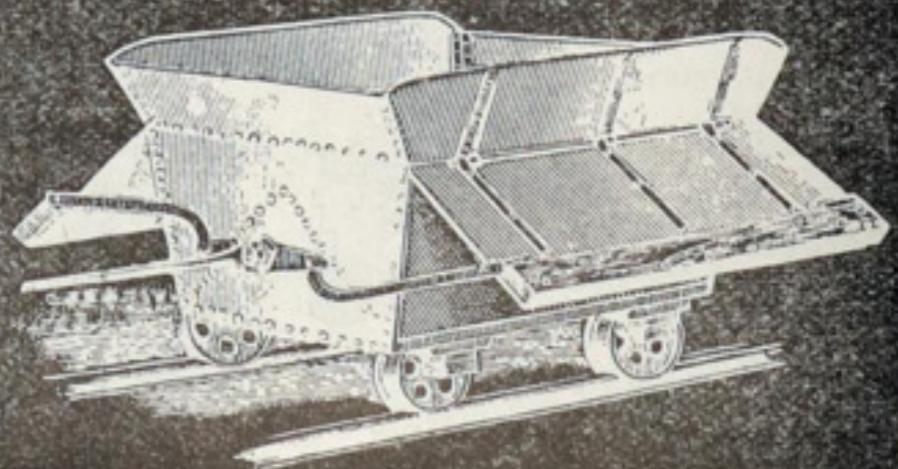
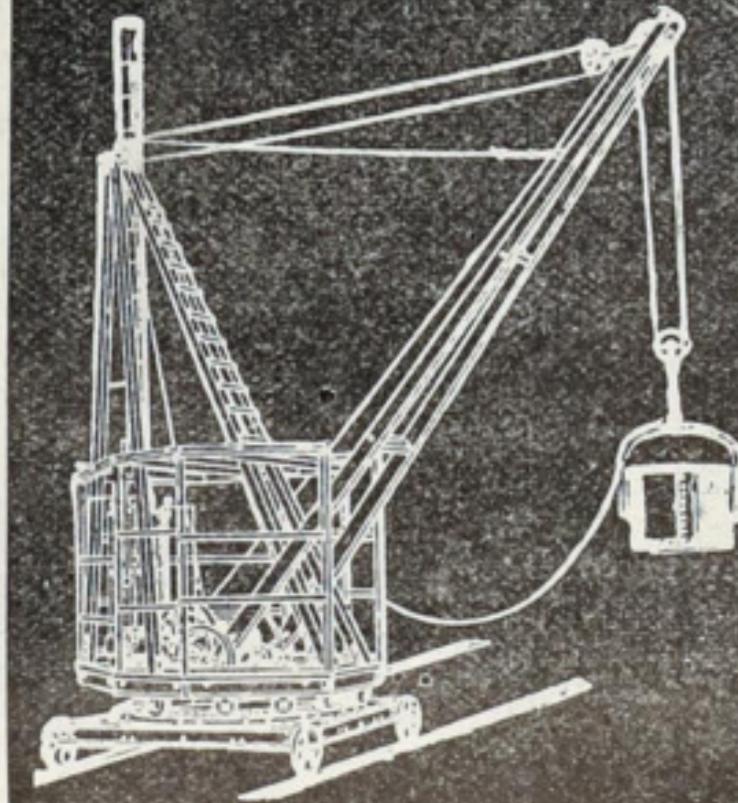
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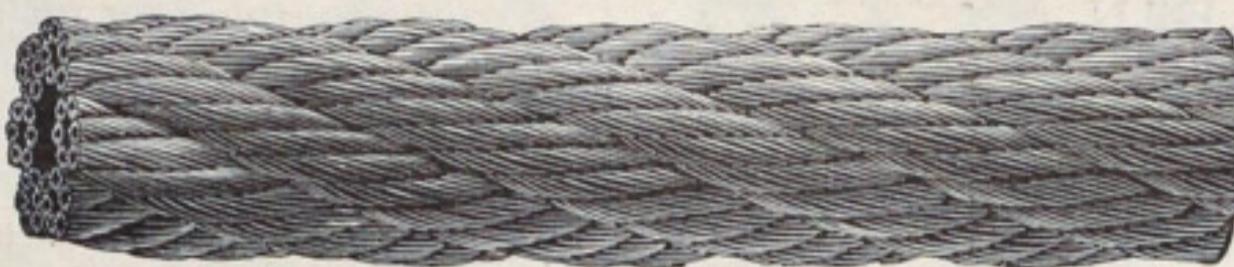
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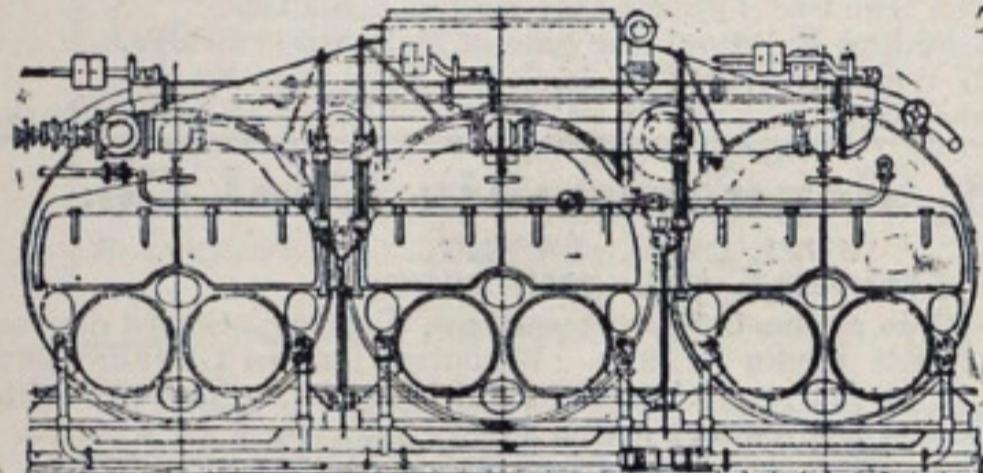
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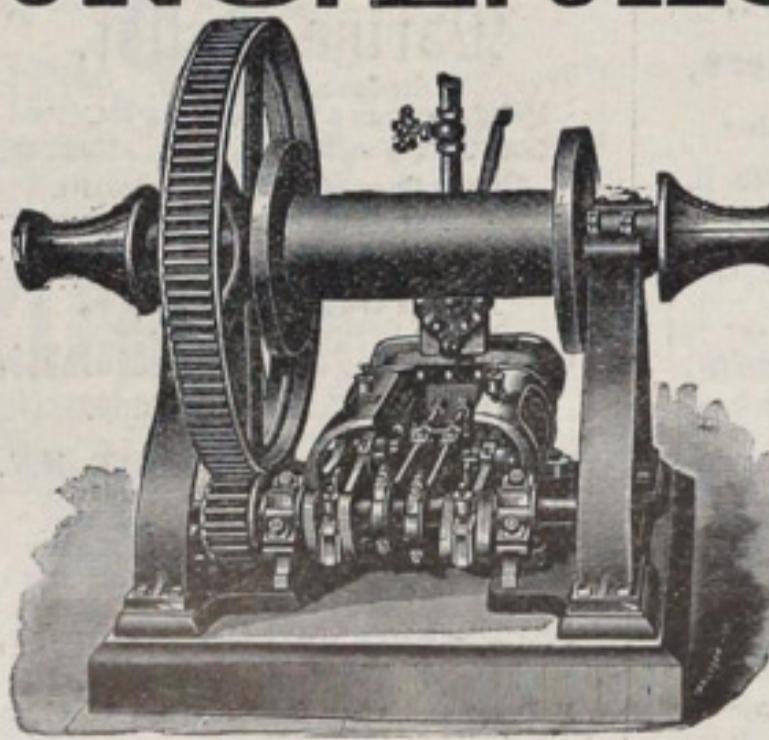
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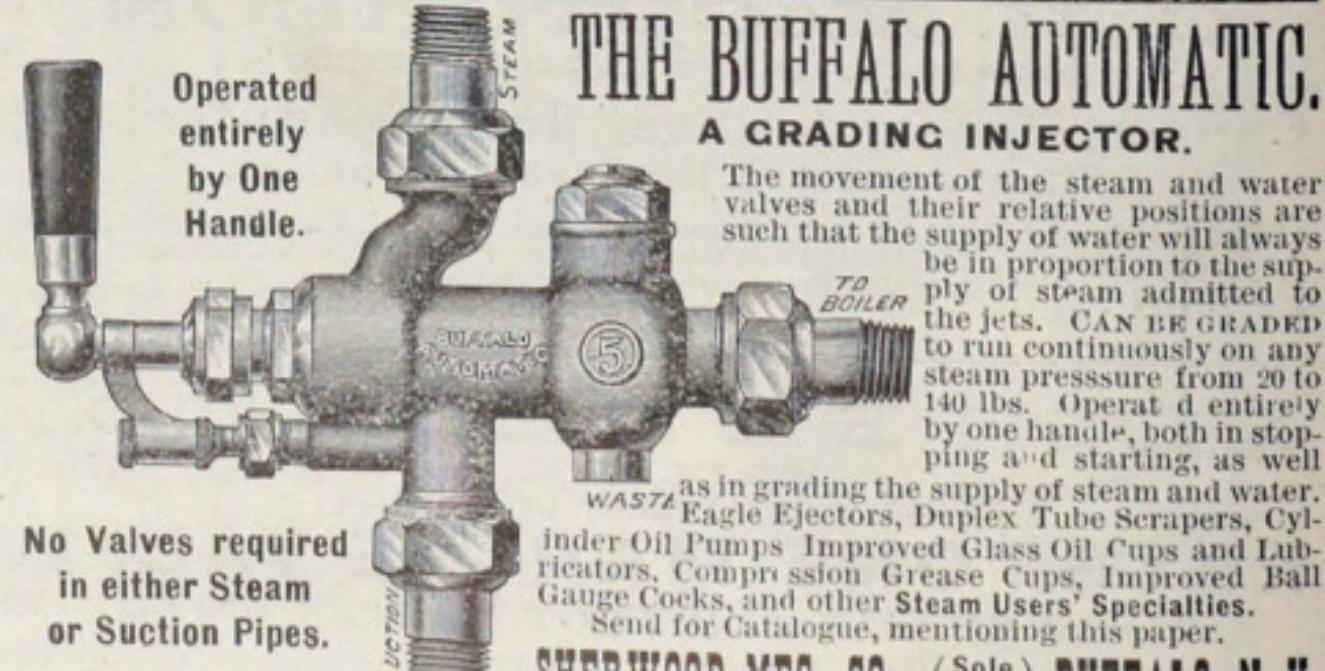


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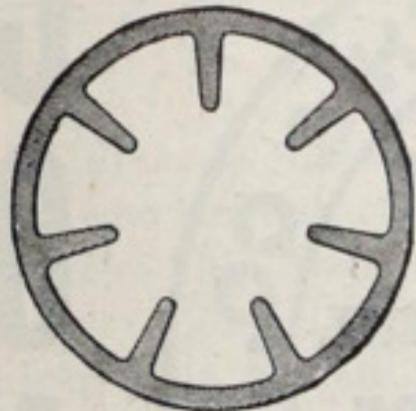
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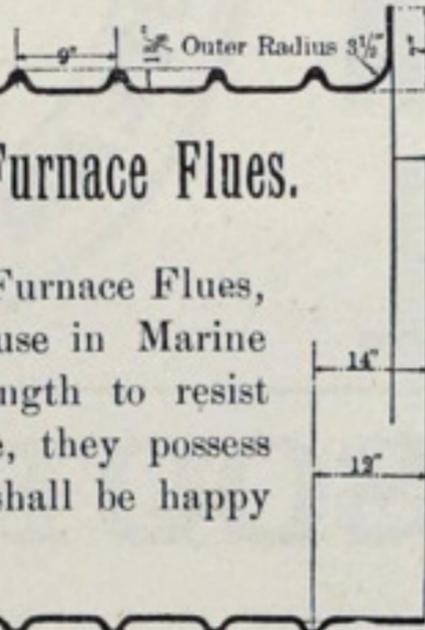


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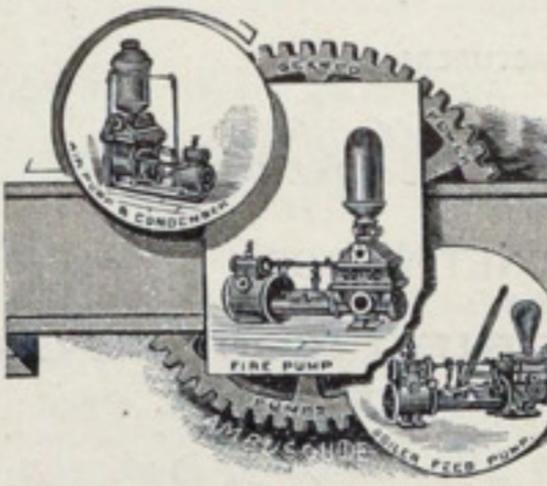
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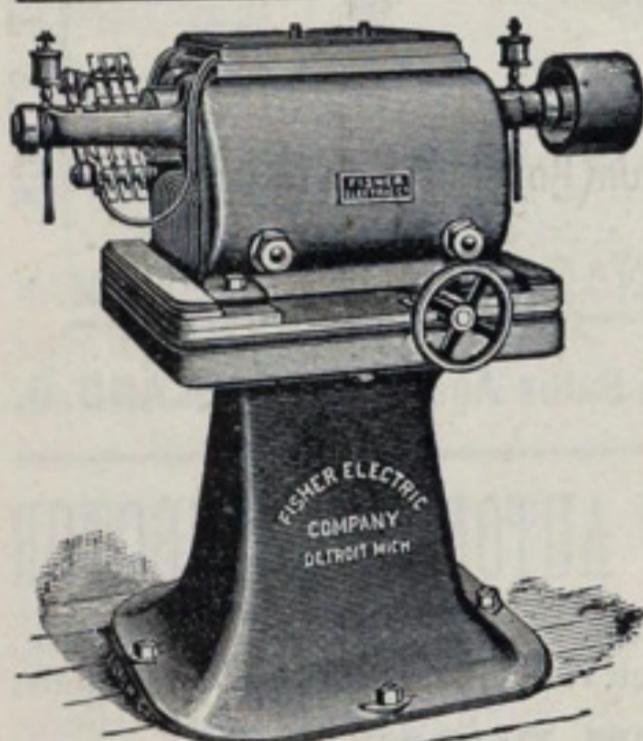
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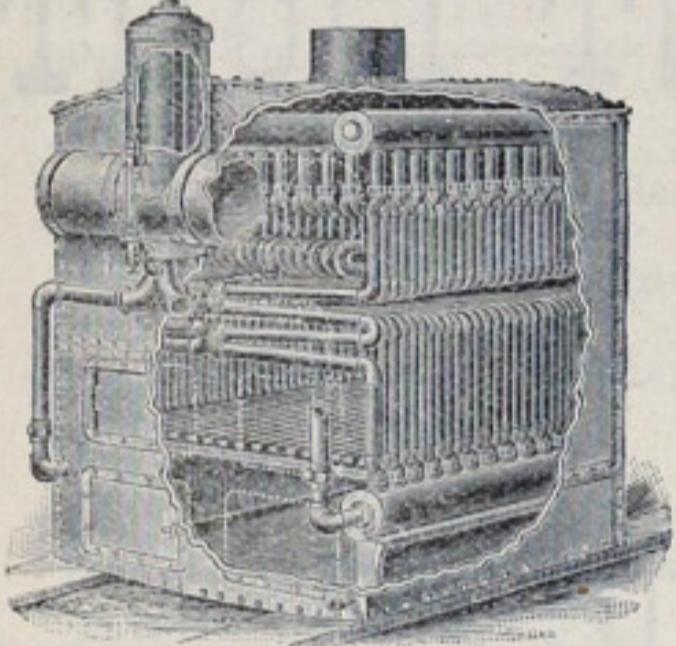
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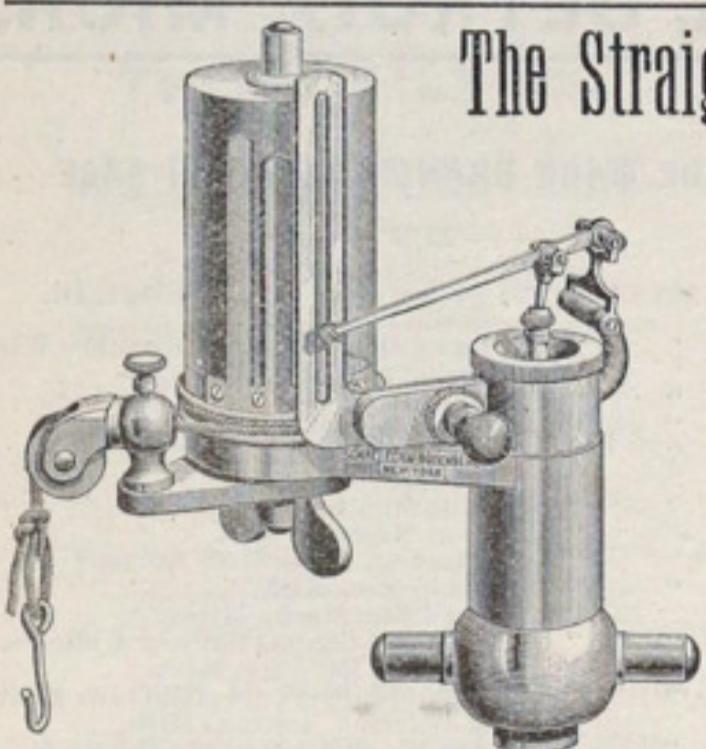
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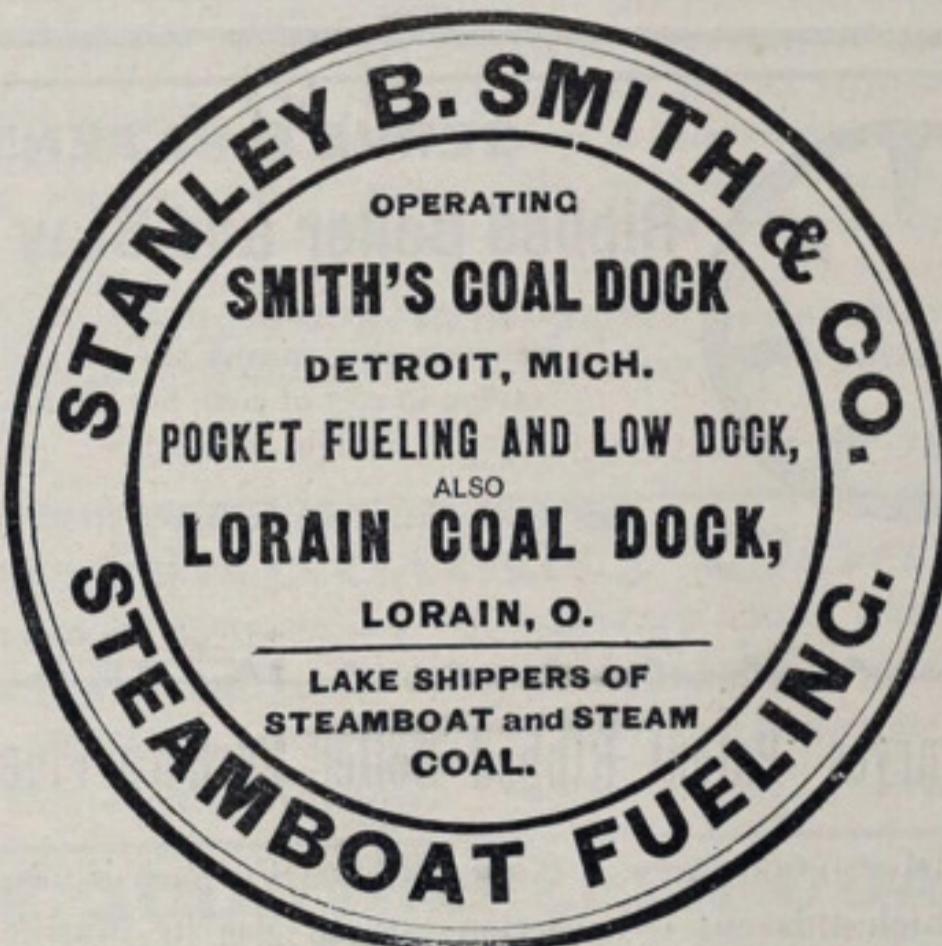
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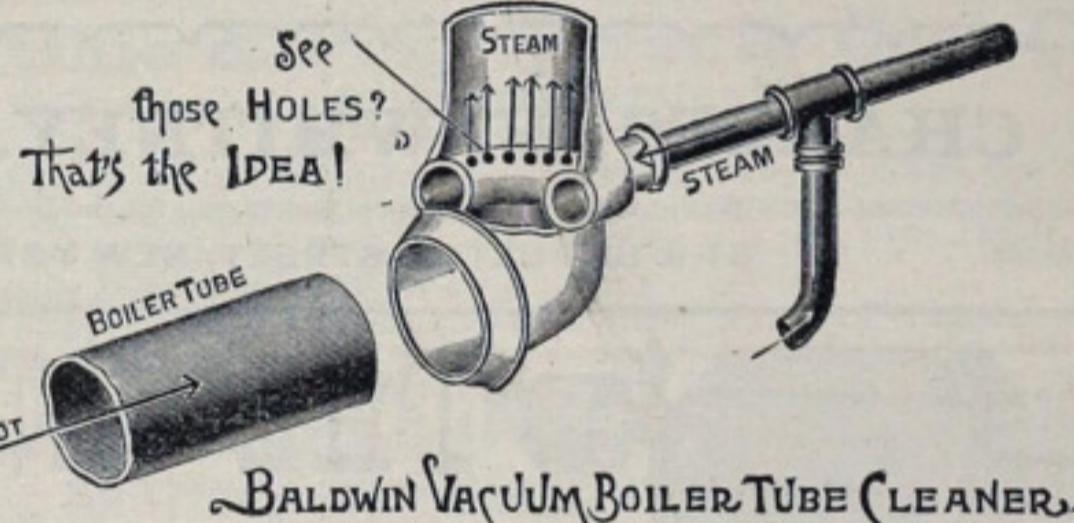
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